

## 1-14. (CANCELED)

15. (CURRENTLY AMENDED) A device (1), for determination of air content, air separation behavior and surface area foam formation of oil[[s]], ~~in particular related to transmission oils, with~~ having an air-oil mixer (2) and a differential pressure sensor (3), the device (1) comprising a conveyor system (4) ~~is installed~~ which transports the oil[[s]] through pipe lines (5) of the air-oil mixer (2), a compressed air port (6) ~~that provides~~ for providing air in the pipe lines (5) of the air-oil mixer (2), a Venturi pipe (9) ~~that is~~ installed in one of the pipe lines (5), and the differential pressure sensor (3) communicates, via ~~through~~ at least two separate drill tubes in the conveyor system of the oil (7, 8), with ~~[[to]]~~ the Venturi pipe (9), ~~which measures~~ for measuring differential oil pressures ~~of the oil being tested.~~

16. (CURRENTLY AMENDED) The device (1) according to claim 15, wherein the compressed air port (6) is controllable, and the mixer is installed for intensive turbulent mixing of the air with the oil in the pipe lines (5).

17. (CURRENTLY AMENDED) The device (1) according to claim 15, wherein the pipe lines (5) further comprise at least one separator ~~[[ (7) ]]~~ (15).

18. (PREVIOUSLY PRESENTED) The device (1) according to claim 17, wherein a diameter of the separator (15) is approximately 20 to 30 mm.

19. (CURRENTLY AMENDED) The device (1) according to claim 15, wherein the air-oil mixer (2) is partially manufactured of glass.

20. (PREVIOUSLY PRESENTED) The device (1) according to claim 15, wherein the air-oil mixer (2) is equipped with a receptacle (14) for surface foam.

21. (CURRENTLY AMENDED) ~~The device (1) according to claim 15;~~ A device (1) for determinating at least one of an air content, an air separation behavior and a surface area foam formation of oil, the device comprising an air-oil mixer (2) and a differential pressure sensor (3) and further comprising:

a conveyor system (4) for transporting the oil through pipe lines (5) of the air-oil mixer (2), a compressed air port (6) for providing air to the pipe lines (5) of the air-oil mixer (2), a Venturi pipe (9) installed in one of the pipe lines (5), and the differential pressure sensor (3) communicating, via at least two separate drill tubes in the conveyor system of the oil (7, 8), with the Venturi pipe (9) for measuring a differential oil pressure;

wherein the air-oil mixer (2) and the pipe lines connected to the Venturi pipe (9) ~~[[and]]~~ are arranged within a temperature-regulating container. ♦♦

22. (CURRENTLY AMENDED) The device (1) according to claim ~~[[20]]~~ 21, wherein the temperature-regulating container has a circulating thermostat. ♦♦

23. (PREVIOUSLY PRESENTED) The device (1) according to claim 15, wherein the device further comprises an A/D converter map and a calculator and the differential pressure sensor (3) is connected with the A/D converter map and the calculator.

24. (CURRENTLY AMENDED) The device (1) according to claim 15, wherein the conveyor system ~~designed as~~ is a gear pump. ♦♦

25. (CURRENTLY AMENDED) A method for ~~[[the]]~~ determinating air content for variable volume flows of transmission oil with a device (1) ~~in particular related to transmission oils, with~~ having an air-oil mixer (2) and a differential pressure sensor (3), the device (1) comprising a conveyor system (4) ~~is installed which transports for transporting the oil[[s]]~~ though pipe lines (5) of the air-oil mixer (2), a compressed air port (6) ~~that provides for providing~~ providing air in the pipe lines (5) of the air-oil mixer (2), a Venturi pipe (9) ~~that is installed in one of the pipe lines (5), and the differential pressure sensor (3) communicating, via through~~ at least two separate drill tubes in the conveyor system of the oil (7, 8), with ~~[[to]]~~ the Venturi pipe (9), ~~which measures for measuring~~ differential oil pressures, the method comprising the steps of;

~~filling up of the oil being tested by means of the~~ a receptacle (14) in the air-oil mixer (2) with the oil being tested; ♦♦

~~switching on a water jet pump, so that sucking the oil is sucked into hoses(12, 13) above a measuring cell of the differential pressure sensor (3);~~ ♦♦

~~prevention of preventing~~ back flow of the oil into the hoses (12, 13) above the measuring cell; ♦♦

switching on the conveyor system (4);

~~filling up of~~ adding more of the oil being tested to the receptacle (14) until the pipe lines (5) of the air-oil mixer (2) are full without bubbles developing therein; ♦♦

adjustment of an air supply;

setting of the conveyor system (4) at maximum flow; and

~~transfer of the oil being tested and measurement of all regulating volume flows at respective constant volume flows~~ measuring the volume flow of the oil being tested and regulating the transfer of oil being tested to respective constant volume flows.

26. (CURRENTLY AMENDED) A method for ~~[[the]]~~ determinating air separation behavior and surface foam of transmission oil with a device (1) ~~in particular related to transmission oils, with~~ having an air-oil mixer (2) and a differential pressure sensor (3), the device (1) comprising a conveyor system (4) ~~is installed which transports for transporting the oil[[s]]~~ though pipe lines (5) of the air-oil mixer (2), a compressed air port (6) ~~that provides for providing~~ air in the pipe lines (5) of the air-oil mixer (2), a Venturi pipe (9) ~~that is~~ installed in one of the pipe lines (5), and the differential pressure sensor (3) communicating, via ~~through~~ at least two separate drill tubes in the conveyor system of the oil (7, 8), with ~~[[to]]~~ the Venturi pipe (9), ~~which measures for measuring~~ differential oil pressures, the method comprising the steps of;

filling up the air-oil mixer (2) with ~~[[of]]~~ the oil being tested through a filler funnel (14) ~~in the air-oil mixer (2);~~

~~switching on a water jet pump so that~~ sucking oil ~~[[is]]~~ sucked into hoses (12, 13) above a measuring cell of the differential pressure sensor (3);

~~prevention of preventing~~ back flow of the oil into the hoses (12, 13) above the measuring cell;

switching on the conveyor system (4);

turning on an air supply;

~~filling up of~~ adding more of the oil being tested to the air-oil mixer (2), until the pipe lines (5) of the air-oil mixer (2) are full without bubbles developing therein;

setting of the conveyor system (4) at a specific flow; ~~[[and]]~~

~~measurement of the differential pressures, stopping the air supply;~~ ~~measurement of the surface foam in ml, time measurement and measurement of the respective differential pressures at regular intervals~~ after a first predetermined interval, measuring surface foam of the oil being tested by

turning off the air supply, and

recording a differential pressure represented by the differential pressure sensor at predetermined time intervals.

27. (CURRENTLY AMENDED) A method for ~~[[the]]~~ determining air separation behavior and surface foam of transmission oil with a device (1) ~~in particular related to transmission oils, with~~ having an air-oil mixer (2) and a differential pressure sensor (3), the device (1) comprising a conveyor system (4) ~~is installed which transports for transporting the oil[[s]] though pipe lines (5) of the air-oil mixer (2), a compressed air port (6) that provides for providing air in the pipe lines (5) of the air-oil mixer (2), a Venturi pipe (9) that is installed in one of the pipe lines (5), and the differential pressure sensor (3) communicating, via through at least two separate drill tubes in the conveyor system of the oil (7, 8), with [[to]] the Venturi pipe (9), which measures for measuring~~ differential oil pressures, the method comprising the steps of;

~~filling up of the oil being tested by the~~ a receptacle (14) in the air-oil mixer (2) with the oil being tested,

~~switching on a water jet pump so that~~ sucking the oil is ~~sucked into hoses (12, 13) above a measuring cell of the differential pressure sensor (3);~~

~~prevention of preventing~~ back flow of the oil into the hoses (12, 13) above the measuring cell;

switching on the conveyor system (4);

~~filling up of~~ adding more the oil being tested to the receptacle (14), until the pipe lines (5) of the air-oil mixer (2) are full without bubbles developing therein;



adjusting an air supply;

setting of the conveyor system (4) at a specific flow; ~~[[and]]~~

~~measuring differential pressures, stopping the air supply, measuring the surface foam in milliliter, a time measurement and a measurement of the differential pressures at regular intervals~~ determining air separation behavior of the oil being tested after a first predetermined interval by

recording a differential pressure represented by the differential pressure sensor,

turning off the air supply, and

measuring the differential pressure at second predetermined time   
intervals. 

28. (PREVIOUSLY PRESENTED) The procedure according to claim 27, wherein setting a temperature of the oil being tested by means of a thermostat in a container.